



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,837	01/16/2004	Andrew G. Carlidge	PRP113US	6971
23623	7590	01/10/2006	EXAMINER	
AMIN & TUROCY, LLP 1900 EAST 9TH STREET, NATIONAL CITY CENTER 24TH FLOOR, CLEVELAND, OH 44114			BUI-PHO, PASCAL M	
			ART UNIT	PAPER NUMBER
			2878	

DATE MAILED: 01/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

H/A

Office Action Summary

Application No.

10/758,837

Applicant(s)

CARTLIDGE ET AL.

Examiner

Pascal M. Bui-Pho

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2004 and 01 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>16 January 2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-20 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3, 5, 7, 10, and 12-14 of copending Application No. 10/758,837. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed invention, claims 1, 2, 5, 7-9, and 12-15, of the present application is a similar version of the claimed invention, claims 1-3, 5, 7, 10, and 12-14, of the above identified copending application with similar intended scope.

The further citations, claims 3, 4, 6, 10, 11, and 16-20, of the present application, would

Art Unit: 2878

have been obvious to one of ordinary skill in the art as common extended characteristics of the system claimed by the above-mentioned application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 2, 7, 9, 12, and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Blumenfeld et al. (US 6,784,982).

With regards to claim 1, Blumenfeld et al. disclose a semiconductor imaging system, comprising: a sensor (4) having one or more receptors (5) to generate digital output for an image, the one or more receptors inherently associated with a pitch parameter (0.2 μm); an image transfer medium (3, 16, 17, 35, 36) having a diffraction-limited parameter adapted to the pitch parameter (Column 5, line 39 – Column 6, line 65); and a semiconductor workstation (8) that analyzes critical dimensions (pattern) from the image.

With regards to claim 2, Blumenfeld et al. disclose a system further comprising an excitation source emitting light of at least 120 nm, including ultraviolet (400nm – 10nm) (Column 2, lines 45-48).

Art Unit: 2878

With regards to claim 7, Blumenfeld et al. disclose a system further comprising an industrial control system (8, 11) to facilitate processing of an image specimen.

With regards to claim 9, Blumenfeld et al. disclose a system further comprising a display (11) to present the image to a user, the display inherently including a computer monitor (Fig. 1).

With regards to claim 12, Blumenfeld et al. disclose a digital microscopic (necessary for relevant DNA/RNA analysis) semiconductor imaging system, comprising: a sensor (4) having a plurality of pixels (5) to generate digital output for an image, each of the pixels inherently having a size; an image transfer medium (3, 16, 17, 35, 36) having a diffraction-limited spot size (smallest diameter DNA spot currently available on a DNA chip) matched to about the pixel size in an object plane (Columns 2-6); and a semiconductor workstation (20) for supporting a semiconductor structure.

With regards to claim 13, Blumenfeld et al. disclose a system further comprising a controller (8, 11) for controlling the semiconductor workstation based on the digital output from the sensor.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3-6, 8, 10, 11, 14-18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blumenfeld et al. (US 6,784,982).

With regards to claim 3, Blumenfeld et al. disclose an excitation source, but lack a clear inclusion of a material that acts as a down-converter for the excitation source. Such inclusion would have inherently been included, however, if not, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Blumenfeld et al. accordingly in order to acquire a desired excitation light for the system.

With regards to claims 4 and 5, Blumenfeld et al. disclose an illumination source that emits light of a wavelength of at least 120 nm, but fail to clearly specify an epi-illumination source and/or a pulsed light source. Selecting a known type of illumination in an optical system would have been obvious to one of ordinary skill in the optics art. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Blumenfeld et al. accordingly in order to provide more control to the emitted light from the light source.

With regards to claim 6, Blumenfeld et al. disclose an optical system with loading, positioning, and/or holding performances, but lack a clear inclusion of a robotic component to facilitate handling of a semiconductor specimen or a mask specimen. Such inclusion would however have inherently been included, however, if not, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Blumenfeld et al. accordingly in order to reduce the need for human intervention and reduce contaminations.

With regards to claims 8, 10, and 11, although Blumenfeld et al. discloses the use of a computer, a clear disclosure of an application program that performs a comparative analysis, a correlative analysis, a cause and effect analysis, a learning system analysis, or a parametric analysis to identify or analyze the specimen is lacking. Such inclusion would however have inherently been included as necessary accessories of a computer system, however, if not, it

Art Unit: 2878

would have been obvious to one of ordinary skill in the art at the time of the invention to modify Blumenfeld et al. accordingly in order to provide a better signal processing device for the system. The further citation in claims 10 and 11 would have also been obvious for similar reasons set forth above.

With regards to claim 14, Blumenfeld et al. disclose a system comprising a computer (8, 11) for processing the digital output of the image, but lack a clear inclusion of a defect inspecting function. Such intended use would have been obvious to one of ordinary skill in the art, if so desired. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Blumenfeld et al. accordingly in order to improve the quality of said semiconductor structure.

With regards to claim 15, although Blumenfeld et al. disclose an image transfer medium comprising a multiple lens configuration, but fail to specify the position and/or focal lengths thereof. Such inclusion would however have inherently been included in order to provide the expected result for the system, however, if not, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Blumenfeld et al. accordingly in order to improve the modulation of light and consequently improve the detection of the optical system.

With regards to claims 16 and 17, Blumenfeld et al. disclose a method of imaging a feature (pattern) of a DNA chip, comprising: placing the chip comprising the feature in an object plane of an image transfer medium (3, 16, 17, 35, 36) having a diffraction-limited spot size in the object of the plane (smallest diameter DNA spot attainable); and collecting light from the feature through the image transfer medium on a sensor (4) having a plurality of pixels (5) to generate an output of an image of the feature, each of the pixels having a size in the object plane

Art Unit: 2878

approximately matched with diffraction-limited spot size in the object plane (Column 5, line 39 – Column 6, line 65), but are silent with regards to imaging a feature of a semiconductor structure. Such intended use would however have been obvious to one of ordinary skill in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Blumenfeld et al. accordingly in order to provide wider application field/environment of the system. The further similar citations of claim 17 would have also been obvious for similar reasons set forth above.

With regards to claim 18, although Blumenfeld et al. disclose a method wherein the output of the image is used to determine a pattern, a clear specification of determining at least a width, length, depth, or proximity to other features is lacking. Such disclosure would have been inherently included in the determined pattern of the system, however, if not, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Blumenfeld et al. accordingly in order to provide clearer detailed performances for the system.

With regards to claim 20, Blumenfeld et al. disclose a method comprising a computer (8), but fail to specifically disclose a memory. Such feature would have inherently been included as a known, available component device in the computer, however, if not, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Blumenfeld et al. accordingly in order to store data for future reference.

Allowable Subject Matter

8. Claim 19 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and

Art Unit: 2878

any intervening claims. Applicants are reminded that claim 19 condition for allowance is pending the successful resolution of the aforementioned double patent rejection.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pascal M. Bui-Pho whose telephone number is (571) 272-2714. The examiner can normally be reached on Monday through Friday: 8:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (571) 272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

pmb


Que T. Le
Primary Examiner